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Ghost Scores, Rotary Fossils, and the Frames That Outlive Their Causes

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ABSTRACT

This essay proposes the **212 Effect**: the continued causal action of an earlier constraint regime through origin-specific organization after that regime has ceased to govern directly. The idea begins with a contemporary-dance exercise in New York City: choreography made to one song, then performed to another. The first song disappears from the room but remains partially legible in the movement it helped produce. The essay then moves from biological memory to infrastructural persistence through New York's 212 area code, a sequence commonly said to have been favored by rotary-dial economy and later converted into scarcity and prestige under digital telecommunications. That namesake becomes the framework's hardest test. Does an origin-shaped constraint remain active, or does only a historically selected token survive? Distinguishing structural residue from indexical residue, causal action from causal ancestry, and transmission from strategic recognition produces an observer-bounded diagnostic that can reject its own most attractive examples. Against numerology, 212 degrees Fahrenheit, the decimal palindrome 212, and the year 212 CE remain boundary cases rather than confirmations. The framework is proposed as a falsifiable tool, not a universal law.

1. THE ROOM BEFORE THE THEORY

During my days as a contemporary dancer in New York City, we used to meet in a defunct public school that rented studio space cheaply enough for broke dancers to afford it.

The building had already changed functions before we entered it. Rooms designed for one kind of instruction were being used for another. Public architecture had become an improvised support system for bodies making experimental work. We did not have to solve the building's history in order to dance there. We needed a floor, time, and enough money to get through the door.

Even that description has a politics. Cheap for us did not mean free of history. I did not know whether the school had closed through consolidation, neglect, demographic change, or some other decision, or what its loss meant to the people it had served. I knew only that dancers with little institutional money could enter the rooms that remained. The same conversion could widen one group's possibilities while recording another group's withdrawal of public support. That uncertainty belongs at the beginning, not as an ethical decoration added after the mechanism has been described.

One of the exercises I remember was simple. We would choreograph a dance to a piece of music. Then we would change the music.

The first song gave us counts, accents, durations, expectations, and emotional pressure. It helped determine when a gesture began, when a phrase broke, how long a suspension could remain suspended, and where a body expected the next event to arrive. Once the choreography had formed, we removed that song and introduced another.

The result was not merely comic mismatch. Sometimes a movement landed on the new music with an accuracy nobody had planned. Sometimes it arrived early, dragged behind the beat, or seemed to argue with the sound. A tender phrase could become sinister. A severe phrase could become ridiculous. The new song did not simply decorate the dance. It pressed against decisions made somewhere else.

Each trained dancer's body became the point of pressure between two scores: one no longer audible, the other impossible to ignore. Training mattered. Injury, fatigue, technique, memory, and the floor mattered. There was no universal body executing neutral code.

Merce Cunningham and John Cage famously separated dance and music so that each could be made independently within agreed durations and meet in what came to be called a shared or common time.[1] Our exercise was not quite that. Music A was not independent of the choreography. It helped cause it. Then Music A was removed. Music B arrived after our rehearsed decisions had already been made.

The building was not yet my example. It was where I learned to see the problem.

What survives when the original music disappears but decisions made under its pressure continue moving?

2. MUSIC B ENTERS

It is tempting to describe the second song as a new frame placed around an old object. That description catches part of the event. Music B changes what the audience perceives. The same movement can suddenly look mournful, mechanical, arrogant, frightened, or absurd.

But a frame is not necessarily passive. Music B has timing, intensity, texture, expectation, and force. At first it may only change the meaning of the movement. With repetition it can begin changing the movement itself. Dancers adjust. Accents migrate. Transitions shorten. Breath finds another rhythm. The choreography gradually learns the conditions of its new environment, not because choreography possesses a mind, but because bodies adapt.

Several outcomes are possible.

The old and new scores may resonate. They may collide. Music B may recontextualize the choreography without materially altering it. Rehearsal may produce a hybrid in which the organizing effects of A and B can no longer be separated. Eventually, the choreography may adapt so thoroughly that Music A becomes causally illegible.

This is not a fossil preserved in amber. It is an inherited structure under new pressure.

I call this the **212 Effect**:

> The continued causal action of an earlier constraint regime through origin-specific organization after that regime has ceased to govern directly.

The residue can remain embedded in place or be translated across bodies, documents, machines, and institutions. A successor regime changes the constraint relation relevant to that residue. The inherited organization must then be interpreted, accommodated, transformed, maintained, or rendered obsolete.

In plain language: **the cause is gone, but something it made is still making a difference.**

3. THE CAUSE IS GONE

Earlier in the Sum Bunny Canon, I used the kaleidoscope as a model of framing. The shards remain while the mirrors rotate; a new arrangement appears, and what once seemed necessary becomes visibly contingent. That model remains useful. But the dance exposes a second problem.

Sometimes the frame helped shape the shards.

Music A did not merely tell us how to interpret movement that already existed. It participated in the movement's production. Removing A did not reverse that production. Its audible presence ended while some of its consequences remained.

This distinction separates three operations.

Reframing gives an existing form another interpretation. **Causal residue** is origin-specific organization that remains attributable to an earlier regime. The **212 Effect** occurs when that residue continues producing patterned consequences after the relevant constraint relation changes.

Causal ancestry is weaker. An earlier event may explain how an object or label entered history without any origin-shaped feature remaining active in the present mechanism. A code can survive because institutions preserve it; a prestige market can then arise because people recognize its age. That sequence forms a causal chain, but it does not yet prove that the constraint which selected the code still acts through it.

The framework therefore needs a relay, not merely a genealogy. The feature used to explain the residue's origin must be the feature, or a demonstrated transformation of the feature, that produces the successor consequence. If an argument invokes pulse economy to explain selection and then invokes incumbency to explain prestige, it must show the bridge between those variables rather than quietly substituting one for the other.

A ghost score is an absent originating constraint whose effects remain active through surviving organization. The term names a causal asymmetry: direct pressure ends while a form produced under it continues to act.

Every cause has earlier causes. To prevent infinite regress, the originating regime must be bounded relative to the residue under examination. The relevant origin is the nearest historical system sufficient to explain the selected organization. A choreographic phrase made to Music A does not require a history of Western tonality; 2-1-2 does not require a history of decimal notation. First isolate the trace, then ask what directly selected its relevant form. Stop when earlier history no longer changes the bounded claim.

This stopping point is analytical, not metaphysical. An acoustic physicist, a choreographer, and a labor historian may draw different useful boundaries around the same phrase. The observer must therefore declare the residue, the relevant variables, the evidence, and the point at which earlier history stops changing the claim. That declaration does not make causation subjective. It makes the scale of the proposed explanation inspectable.[3]

This is the **Minimal Sufficient Origin Rule**. It prevents causal history from becoming cosmology every time somebody asks why a movement starts on count three.

The 212 Effect sits near several established ideas without replacing them.[4] **Path dependence** establishes that earlier events can constrain later outcomes. **Hysteresis** describes a system whose present state depends upon its prior inputs. **Lock-in** describes an outcome stabilized by reinforcing returns or switching costs. **Institutional layering** describes new rules accumulating alongside older ones. The 212 Effect is narrower: origin-specific organization produced under one regime remains causally active after that regime loses direct authority and encounters a successor that changes the relevant constraint relation. A case can qualify without becoming locked in; it may last for one performance. What matters is not mere persistence, but an inherited organization doing work under rules that no longer explain its origin. If the relay cannot be demonstrated, the established concepts may already provide the simpler explanation.

4. HOW A GHOST SURVIVES

Causal residue survives in at least two ways.

A **portable trace** crosses bodies or substrates. Choreography can move through memory, teaching, notation, or recording. A legal formula can migrate through statutes. A numbering sequence can cross from electromechanical switching into digital databases. Portable does not mean disembodied. Every trace requires some material system capable of preserving or reconstructing it.

The roles in that transmission must not be collapsed. A **carrier** stores or reconstructs a trace. A **medium** enacts it. A **translator** changes its representation. A **maintainer** keeps it available. An **environment** constrains the encounter between the trace and its successor regime. One body, device, or institution may occupy several roles, but the roles are not interchangeable. A dancer can be both medium and temporary carrier; a camera captures, while a recording carries; a room usually supplies environment or embedded constraint rather than portable memory.

An **embedded legacy constraint** stays in place while later activity forms around it. An old railway alignment can organize a road. A former industrial building's load capacities can determine what later occupants are able to construct. A school-era wall, column, or circulation pattern might constrain a dance studio long after the educational regime that produced it has ended.

Residues can also operate in two different causal modes. A **structural residue** remains active because a successor still encounters an origin-shaped relation: a banked grade affects vehicles; an inherited count collides with a new downbeat. An **indexical residue** operates because observers treat a surviving token as evidence of historical position: age, tenure, authorization, authenticity, or prior membership. Indexical residues require a stricter audit. Their consequence is produced not by the token alone but by institutional continuity, recognition, and coordinated belief. Without that demonstrated relay, an old label is only an old label.

But age is not enough. Presence is not enough. An old radiator in a rehearsal room does not automatically become a ghost score. It qualifies only if an earlier regime explains its particular form or placement and that inherited organization produces a patterned consequence inside the successor activity.

This is a problem of provenance. Present geometry explains how a current system responds. History explains why the geometry has this particular shape rather than another feasible one.

Cars follow a road because of the road's current physical geometry. If that road follows a former railway, the railway history matters only where it explains grades, curves, parcels, or alignments that a road built from scratch would not necessarily possess. Terrain may already explain much of the route. A rigorous account must distinguish inherited selection from geography that would constrain either system.

The same distinction separates embedded legacy from mere reuse. Pouring sand from a bottle designed for water changes the contents, but the bottle still performs substantially the same containing-and-

pouring function through the same aperture. A slower pour or an occasional clog is a response to present geometry, not yet evidence that an earlier constraint regime is transmitting organized systemic logic into a successor activity. Without a demonstrated change in the constraint relation relevant to the residue, the bottle is mere reuse.

That boundary is not scholastic housekeeping. If every inherited curb, aperture, and inconvenience counts as a ghost score, the framework cannot distinguish a historically selected system from an obstacle that happens to be old. Policy can then preserve obsolete infrastructure for a history it does not actually transmit, historians can assign the past explanatory work performed by present geometry, and artists can mistake atmosphere for causation. The mere-reuse test protects the argument from becoming a license to romanticize leftovers.

Qualification and significance are different questions, but qualification comes first. An object does not instantiate the 212 Effect merely by being old, reused, or inconvenient.

The question is not whether an old object remains. The question is whether origin-specific organization from one constraint regime still makes a patterned difference after the relevant constraint relation changes.

5. TRANSLATION IS NEVER NEUTRAL

The word *survival* can suggest that an intact thing travels through time. Usually it does not.

When choreography moves from one dancer's memory into notation, from notation into another dancer, or from performance into video, the trace is selected and compressed. A video can preserve visible movement and timing while failing to preserve proprioception, fatigue, or an internal count. It may register a footfall while losing the force sent through the heel, the peripheral sightline that triggered a turn, the shortening of breath, the drag of sweat, and a dancer's calculation of gravity. Notation preserves what its system and notator encode, but staging still requires interpretation. Oral teaching can transmit pressure, intention, and style that a diagram might miss while introducing drift through memory.[2]

The carrier acts as a translation filter and sometimes as a co-producer. It preserves some relations, omits others, amplifies some features, introduces artifacts, and can generate relations that did not exist in the originating performance. A camera creates a frame and a repeatable viewpoint; notation makes some comparisons easier precisely because it abstracts from lived sensation. Translation is not only damage. It is loss, gain, selection, and transformation. The 212 Effect is therefore **substrate-general, not substrate-neutral**. It can occur through bodies, buildings, laws, and telecommunications, but its mechanism changes with the material that carries it.

Translation must also be distinguished from encounter.

When the choreography first meets Music B, its specified sequence may remain recognizable, although no two performances are physically identical. What first changes is its apparent meaning. This is **semantic recontextualization**. If repeated rehearsal changes timing, emphasis, pathways, or breath, **structural transformation** has begun.

Music B does not automatically translate the trace. It changes the constraint relation around it. The inherited movement may resonate, resist, adapt, hybridize, or become obsolete.

Nor does a surviving trace preserve every dimension of identity. We must ask what remains formally identical, what continues to function, what implementation has changed, what the form refers to now, and what social meaning it has acquired. Continuity along one dimension does not establish continuity along every dimension.

The identity audit that clarifies 212 must also clarify the dance. The trace's **formal identity** lies in reproducible relations among gesture, duration, sequence, and pathway. Its **operational identity** lies in organizing a performance. Its **implementation identity** changes with the particular body, rehearsal process, notation, floor, and breath through which it is realized. Its **referential identity** changes when accents once keyed to events in Music A no longer point to the same audible events. Its **social identity** changes when Music B invites an audience to read the phrase as mournful, comic, aggressive, or estranged. Continuity in the formal sequence does not preserve the original performance whole.

Music A does not survive as audible music. Selected choreographic relationships survive. My trained body could carry consequences of a song without carrying the song itself, and another dancer could receive only the portion that teaching, notation, demonstration, and their own body allowed.

The ghost score is not silence. It is causation surviving silence.

6. ROTARY CHOREOGRAPHY

The number 212 supplies the public case, the name, and the framework's most dangerous temptation.

In the original nationwide numbering plan developed in 1947, 212 was assigned to all five boroughs of New York City, not only Manhattan.[5] Under rotary dialing, digits were mechanically unequal. Dialing 2 generated two pulses, 1 generated one, and 2 generated two more. The sequence required only five pulses, making it exceptionally quick to dial.

A familiar historical story says that this economy explains the assignment: the busiest or most frequently called regions received low-pulse combinations because shorter dialing cycles mattered at scale. Later

newspaper accounts repeat that explanation.[6] The primary technical account I have located, W. H. Nunn's 1952 description of the nationwide numbering plan, establishes the plan's architecture, geographical divisions, and use of 0 or 1 as the middle digit, but it does not state that New York received 212 because call volume was ranked against rotary effort.[6] The popular account may be true. The source I have does not prove it.

That evidentiary limit changes the argument. At the scale of an individual rotary call, **choreography for a finger** remains exact: 2-1-2 instructed a movement, the finger supplied it, and the apparatus translated the movement into pulses. At the scale of the 1947 assignment, however, pulse economy is a historical hypothesis about selection, not an established choreographer.

Even if an original memorandum eventually confirms the familiar story, it would establish only causal ancestry. It would show why these digits were chosen. It would not by itself show that the rotary constraint remains active in a digital network or prestige market.

What can be established is the persistence and transformation of the token. The sequence continued serving as an area code. Its formal identity remained intact, and part of its routing function persisted. Its implementation changed from electromechanical pulses to electronic signaling and database-mediated routing. Its territorial reference changed. Whatever its precise original selection rationale, that rationale no longer governs allocation. Its social meaning also transformed.

The transformation did not happen in one clean rescore.

In 1984, a geographic split created 718 for Brooklyn, Queens, and Staten Island while 212 remained with Manhattan and the Bronx. In 1992, the Bronx moved to 718 and 917 was introduced as an overlay spanning the 212 and 718 territories, including mobile and paging demand. The 646 overlay followed in Manhattan in 1999, and 332 entered service in 2017. Existing customers retained their numbers while new demand was increasingly served through newer codes.[7]

No single policy announced that 212 would become prestige. Administrative decisions produced differentiated availability. Geographic association, age, retention, and scarcity created conditions under which a reception layer could form. In some real-estate, professional-service, media, and small-business settings, clients, advertisers, and business owners learned to read 212 as older, established, and authentically Manhattan. Newspapers described the code as coveted and status-bearing, while newer codes could mark relative newcomer status.[8]

Reception was not terminal. The loop required observers and strategies inside the system. Holders recognized the value and retained or ported their numbers. Businesses displayed the code as a credibility signal. Number brokers and virtual-telephone vendors observed demand, assembled

inventories, and priced or licensed access to numbers carrying the code. Their listings converted a cultural judgment into a market variable; customers reinforced the judgment by paying for access.[8]

This is not simply culture attaching itself to infrastructure. It is a coordination problem. A business values 212 because it expects clients to recognize it; clients recognize it because established businesses display it; vendors charge a premium because businesses expect that recognition. Given the expectations of the other participants, no participant needs to remember rotary dialing for the arrangement to continue. The code's prestige can stabilize as an equilibrium of mutually reinforced belief.[9]

That observation identifies both the strength and the weakness of the example.

As a **structural residue**, 212 is weak. Digital switching does not encounter the sequence as five economical pulses. The original mechanical advantage is gone. If Manhattan had originally received 914 and everything else in the later history remained the same, 914 might now carry the same prestige. If 212 were introduced today as a new overlay with no incumbent history, its low rotary burden would probably confer no comparable status. The contemporary effect appears to track tenure, territory, scarcity, and recognition rather than pulse count.

As an **indexical residue**, the case is stronger. The exact token survives through continuous administrative and technical maintenance. Observers read it as evidence of historical position. Their coordinated response changes retention, marketing, and price. The token does not contain age by itself; institutions preserve the continuity that allows people to infer age from it.

The distinction prevents a variable substitution. Rotary economy may explain selection. Incumbency and common knowledge explain prestige. The causal bridge between them is not the continued efficiency of five pulses. It is the preservation of an exact identifier whose institutional tenure becomes legible to later observers.

Nor is the resulting hierarchy socially neutral. A 212 number does not literally exclude anyone from Manhattan telephone service; 646, 917, and 332 provide the same basic routing function. Its gatekeeping is symbolic and sometimes commercial. It gives incumbents an inherited sign of tenure and lets others pay to borrow that sign, while newer entrants may accept a code read as newer or reject the hierarchy entirely. The effect is uneven, industry-specific, and small beside housing or employment exclusion. Newer and outer-borough codes can also acquire counter-identities not measured by a prestige market centered on Manhattan.

Numbering policy was a successor regime. Prestige was a reception layer. Holders, businesses, clients, brokers, and vendors formed the mechanism that made reception materially consequential. I have not found evidence that prestige changed formal numbering-allocation policy; official overlays were justified through number exhaustion, demand, conservation, and service continuity.

The 212 area code therefore carries several identities at once. The formal sequence persists. The routing function persists in altered territory. The mechanical implementation is gone. The historical tenure is real. The original selection rationale remains incompletely documented. The social meaning is new and strategically maintained.

The area code is therefore not the same kind of case as the dance. The dance presents a structural relay: Music A-shaped timing directly encounters Music B. The area code presents, at most, an indexical relay: a preserved token becomes evidence within a later equilibrium of recognition.

That is why 212 can still name the effect. It is also why the namesake must remain on probation. A diagnostic that cannot reject or downgrade its own most attractive example is not a diagnostic. It is branding.

7. THE NUMBER DOES NOT KNOW

Once a number organizes an essay, false connections multiply. The normal boiling point of water at standard atmospheric pressure is approximately 212 degrees Fahrenheit, but the same event is 100 degrees Celsius or 373.15 kelvin; the physics survives a coordinate swap while *212* disappears.[10] The decimal string 212 is palindromic and the integer factors as $\mathbf{2^2 \times 53}$, but mathematics has states, not memory: another base removes the palindrome, and neither property records why anyone selected the number. In 212 CE, Caracalla's *Constitutio Antoniniana* extended citizenship to nearly all free inhabitants of the Roman Empire; Cassius Dio connected the edict to citizen taxes, but modern scholarship does not treat that hostile account as a complete explanation.[11][12] The edict may illuminate inclusion, obligation, and extraction, but the year did not cause it. These are a coordinate-dependent label, an arithmetic property, and an indexical date—not three confirmations of a hidden essence. The number 212 is a compositional constraint, not an oracle. Shared appearance may suggest a question; only causal evidence can justify the connection, and the observer must state how the inquiry was bounded.

8. SIX CONDITIONS AND A WAY TO LOSE

The full diagnostic appears in the appendix, but the central framework can be stated through six conditions.

First, **causal attribution**: did the earlier regime help select or organize the residue?

Second, **constraint provenance**: does that regime explain why the residue has this particular configuration rather than another feasible one?

Third, **constraint-relation change**: did the successor alter, remove, or conflict with the relationship that originally organized the residue?

Fourth, **material continuity**: how was the residue preserved, either embedded in place or translated across carriers?

Fifth, **causal relay**: is the origin-shaped feature the same feature, or a demonstrated transformation of the feature, that produces the successor consequence? For an indexical residue, what institution preserves the identifier, who recognizes its historical position, and how does that recognition change behavior?

Sixth, **patterned consequence**: does the residue repeatedly affect successor activity rather than merely remain present?

The dance survives all six conditions in sequence. Music A selected counts, accents, and pathways; those relations explain why this choreography took this form rather than another; Music B changed the relevant rhythmic and semantic pressures; memory, teaching, notation, or recording preserved a partial trace; the A-shaped timing itself encountered B's timing; and the inherited sequence repeatedly produced resonance, friction, or adaptation. The analysis does not require Music A to survive as music.

The area code does not pass so cleanly. Administrative records, databases, devices, and customer retention clearly preserved the sequence; the sequence clearly continued organizing routing; later observers clearly converted its tenure and scarcity into some patterned status and market effects. But the claim that rotary economy selected the assignment remains incompletely sourced, and the digital prestige mechanism does not respond to pulse efficiency. The case fails the structural version of the relay test. It may pass the indexical version if the residue is defined as the continuously maintained identifier rather than its low-pulse property.

That difference reveals why the comparison class must be declared. If the residue is the exact token *212*, substituting another code changes the contemporary object by definition. If the residue is the structural property *low pulse count*, substituting another historically incumbent code may leave the prestige effect intact. A theory can manufacture success by switching from structural property to token identity between origin and consequence. The causal-relay test prohibits that move.

Counterfactual reasoning supports the conditions only when its scale is explicit. If Music A had been different, would the choreography probably have been different? If the same choreography met a different Music B, which A-shaped relations would still predict friction? If Manhattan had inherited another code with the same tenure and scarcity, would contemporary prestige differ? If a road would have followed the same terrain without the railway, how much explanatory work is the railway history actually doing?

Cases also unfold through time: an originating pressure forms a trace; the original regime weakens; a successor changes the constraint relation; the trace resonates, resists, translates, adapts, hybridizes, or decays; maintenance may institutionalize it, and neglect may erase it. The framework describes a trajectory, not a museum label.

The framework should also be able to reject cases. A pattern that disappears when the coordinate system changes is not a causal fossil. An old object performing substantially the same function with different contents may be mere reuse. A one-time collision is not patterned consequence. Causal ancestry without a relay is not continued causal action. Continuity in one identity dimension does not prove survival in all the others. A beautiful analogy is not evidence.

A diagnostic becomes useful when it can lose before the prose is written. In dance, matched phrases could be created under different Music A tracks and then performed under the same Music B. Timing, accent, pathway, and adaptation could be measured across repetitions; blinded observers could test whether A-specific relations remain detectable and how quickly they decay. If the residual pattern does not exceed a no-music or randomly paired baseline, the strong claim fails.

The telecommunications case permits another test. Legacy codes across cities could be compared while controlling for age, geographic association, scarcity, memorable digit patterns, business sector, and number portability. If contemporary value follows incumbency and recognition but not rotary burden, the rotary feature is not active. The result would not erase 212's history. It would classify the present effect as indexical path dependence rather than a structural fossil.

Most importantly, qualification does not establish importance. The significance question comes later. How durable is the residue? How broadly does it shape behavior? Does its history reveal hidden labor, path dependence, institutional power, or ethical stakes? What does the framework explain that a simpler account does not?

The 212 Effect is not proposed as a universal law. It is a diagnostic framework for distinguishing causal residue from coincidence, mere reuse, causal ancestry, and representational pattern. It earns a separate name only where the relay test explains something that path dependence, signaling, affordance, or current geometry leaves unresolved.

9. THE ETHICS OF RESCORING

Survival is not inherently good. Change is not inherently liberation.

A successor regime can open inherited organization to uses excluded by the original. A public school can become a place where dancers without institutional money make art. A rigid form can acquire

unexpected meaning under another score. For us, the cheap room was a liberating rescore. That judgment cannot be generalized to everyone attached to the building. If a neighborhood lost a school, the same conversion may have expanded artistic possibility for one group while registering as abandonment or dispossession for another. A rescore has no single ethics outside the distribution of choices it expands and contracts.

But a new frame can also conceal old burdens. A system can rename membership, modernization, or access while leaving extraction intact or extending it. Caracalla's citizenship edict remains useful here, not because of the number 212, but because the language of inclusion does not by itself reveal how duties and power are distributed.

The 212 case also has an ethical distribution. Alternate Manhattan codes provide the same basic telephone access, so the hierarchy is not literal exclusion from service. But when a code is read as proof of tenure, authenticity, or business establishment, incumbents receive a reputational advantage they did not have to purchase as such. Brokers and vendors can monetize access to services carrying that signal; newcomers can pay, refuse, accept the weaker signal assigned by that market to a newer code, or participate in a counter-reading that values another borough or history. Telephone numbers remain public numbering resources rather than privately owned property, so the commodity is access, continuity, and signaling—not title to the digits themselves.[13] A legacy identifier becomes a small market in inherited credibility.

Some traces disappear without an enemy. A digital protocol may render an older input incompatible. A file format loses support. A new safety code makes an inherited component unusable. This is systemic overwrite or obsolescence. No malicious intention is required, but absence of malice does not erase consequences.

Other erasures are targeted. Institutions destroy archives, suppress languages, rename histories, or remodel sites in order to make prior identities harder to recover. Targeted erasure can succeed, fail, or force a trace into another carrier.

Sometimes attempted removal produces an overwrite scar: a durable feature whose location, form, or behavior is causally determined by the earlier structure or by the attempt to remove it. But erasure does not automatically create a poetic wound. A scar must have mechanics. It may appear as incomplete removal, construction forced around a load-bearing element, differential wear, residual attachment points, or a compensatory structure made necessary by what could not be erased.

Every archive and transmission system also exercises translation power. It decides, intentionally or structurally, what can survive and what new relations become possible. Video preserves and produces some things. Notation preserves and produces others. Institutions choose which version becomes

authoritative. Trained bodies remember through repetition, but bodies differ, tire, adapt, age, resist, and stop.

So the ethical questions are not only *What survives?* and *What changes?* They are also:

- Who chooses the carrier?
- Who performs the maintenance?
- What cannot enter the new substrate?
- Who profits from inherited scarcity?
- Who must adapt to the successor regime?
- Who can erase, rename, preserve, or refuse the residue?
- Whose meaningful choices does the rescore expand, and whose does it contract?

Visible continuity often rests on invisible labor, and the labor has distinct functions. In telecommunications, databases and switching systems carry and enact the number; administrators allocate numbering resources; carriers and vendors maintain service; customers preserve continuity by retaining and porting. In dance, bodies and records carry partial traces; dancers enact them; teachers and notators translate; rehearsal directors and archivists maintain; floors, rooms, and music constrain the encounter. The form may outlive its originating cause, but it never outlives material support.

Every ghost needs a carrier. Every carrier has limits. Many carriers have caretakers.

10. RETURN TO THE ROOM

The former school had unquestionably been repurposed. Whether it carried a ghost score depends on provenance: did its school history explain why we moved that way rather than another, and did the influence recur? Or did we merely dance inside an old school?

I do not know enough about the building's design history to force an answer.

If inherited architecture repeatedly shaped rehearsal practices or choreography, the building may have contained an embedded 212 Effect. If it merely supplied inexpensive rooms, it was essential context but not causal residue. If a dance developed around school-era geometry and later traveled to another venue, a situated constraint may have generated a portable trace.

The uncertainty is not a weakness. A diagnostic that cannot reject its own most beautiful opening image is not a diagnostic. It is a recruitment device for metaphors.

The dance remains clearer because its relay is structural rather than merely indexical.

Music A is absent. Origin-specific choreography remains. Memory, teaching, notation, or recording preserves it selectively. Music B changes the constraint relation around it. At first, the new song may

only alter what the audience perceives. With repetition, it may alter what a particular trained body performs. Eventually the residue may migrate, hybridize, become institutionalized, or disappear.

A numbering system retains a sequence. A road inherits a grade. A building preserves an alignment. Choreography carries a count from one body into another. None remembers as a person remembers. Their continuities depend upon databases, materials, standards, rehearsal, maintenance, and interpretation.

Those continuities are not identical. A road may structurally inherit a railway's grade. Choreography may structurally inherit a song's timing. An area code may indexically inherit tenure because institutions preserve the exact token and observers coordinate around what it signifies. The causal-relay test keeps those mechanisms from borrowing evidence from one another.

The name **212 Effect** therefore contains a warning. Its strongest intuition comes from the dance; its public namesake remains conditional. If evidence eventually shows that rotary economy selected the code, that fact will clarify its ancestry. The contemporary prestige effect will still require its own explanation through preservation, scarcity, recognition, and strategic coordination.

The framework does not become weaker by placing 212 on probation. It becomes capable of correction. A theory should be able to discover that its own name is a boundary case.

The network retains the number. The road inherits the grade. The choreography carries the count.

Music A is silent. Music B fills the room. Inherited movement continues—perhaps for one performance, perhaps long enough to cross into another dancer.

The music changes. The body keeps count.

APPENDIX A: THE 212 DIAGNOSTIC

The diagnostic is designed to be used after a possible residue has been identified. It does not generate cases by searching for similarities. It tests whether a proposed case contains a bounded causal history.

Step Zero: Scope the Inquiry

1. Identify the present effect.
2. Isolate the suspected residue.
3. Define the relevant feature and variables. Is the residue an exact token, a structural property, a historical role, or an index of tenure?
4. Select the minimal sufficient originating regime.
5. State where the historical inquiry stops and why.
6. Declare the observer's scale, comparison class, evidence, and plausible alternative explanations.

The Six Core Conditions

1. Causal Attribution. Did the earlier regime help select or organize the residue?

2. Constraint Provenance. Does the earlier regime explain why the residue possesses this particular configuration rather than another feasible one?

3. Constraint-Relation Change. Did the successor alter, remove, or conflict with the relationship that originally organized the residue?

4. Material Continuity. Where was the residue preserved? Did it remain embedded, or was it translated across carriers? What was retained, lost, distorted, amplified, or introduced?

5. Causal Relay. Is the origin-shaped feature the same feature, or a demonstrated transformation of the feature, that produces the successor consequence? If the residue is indexical, what maintains its continuity, who recognizes it, and how does recognition change behavior?

6. Patterned Consequence. How does the residue repeatedly organize successor activity?

Exclusion Tests

Coordinate-Swap Test

Does the pattern disappear when its unit, notation, or representation changes?

Mere-Reuse Test

Is the object performing substantially the same organizing function with different contents?

Incidental-Collision Test

Is there patterned influence, or merely a one-time obstacle?

Causal-Ancestry Test

Does the earlier regime explain only how the present object or label entered history, without any origin-shaped feature remaining active in the present mechanism?

Feature-Substitution Test

Does the argument use one property to establish origin and a different property to establish present consequence without demonstrating the relay between them?

Selection Audit

Were the examples derived from the causal principle, or collected because they share a number, name, or shape? How did the observer's choice of residue, scale, and comparison produce the proposed case?

Identity-Dimension Audit

Which dimensions persisted, changed, or disappeared? Is continuity along one dimension being inflated into whole-object survival?

Dynamics Audits

Translation Profile

What happens when the residue changes carriers?

Regime-Encounter Profile

Does the successor produce resonance, friction, recontextualization, adaptation, hybridization, suppression, or obsolescence?

Persistence Audit

Where is the residue in its trajectory: formation, successor encounter, adaptation, migration, institutionalization, decay, or disappearance?

Maintenance Audit

What labor, policy, infrastructure, or institution preserves it?

Overwrite-and-Erasure Audit

Was the change non-targeted obsolescence or deliberate suppression? What survived?

Reception-and-Feedback Audit

Who assigns the new meaning or value? Which actors observe that valuation, convert it into price, policy, retention, or design, and thereby alter the carrier or successor regime? Is the feedback demonstrated or merely plausible?

Equilibrium Audit

Which actors recognize the residue, what strategies and benefits sustain that recognition, and could the formal trace remain after the coordinated social consequence collapses?

Falsification Protocol

- State what observation the framework predicts before selecting confirming examples.
- Name the strongest simpler explanation and the comparison that could distinguish it.
- Specify what result would downgrade the case from structural to indexical, from indexical to causal ancestry, or from qualified to rejected.
- Seek primary evidence for the originating selection rule and report when it cannot be found.
- Report null results, decay, failed replication, and cases that the diagnostic excludes.

Significance Filter

A qualifying case does not automatically deserve extended analysis.

- How broad and durable are its consequences?
- How much explanatory work does the framework perform, and does it reveal hidden history or path dependence?
- Are the stakes meaningful, and does the case challenge an existing explanation?

ENDNOTES

1. Merce Cunningham, “Four Events That Have Led to Large Discoveries,” *Merce Cunningham: Fifty Years* (New York: Aperture, 1997), reproduced by the Merce Cunningham Trust. Cunningham describes how he and John Cage separated music and dance while agreeing on shared beginning and ending points. https://www.mercecunningham.org/the-work/writings/four-events-that-have-led-to-large-discoveries/; Walker Art Center, “Merce Cunningham: Common Time.” https://www.walkerart.org/collections/artist/merce-cunningham/

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7. New York State Department of Public Service, “NYC Residents and Businesses Prepare for New 332 Area Code,” May 9, 2017, documenting the Bronx transfer and 917's original mobile use; New York State Department of Public Service filing on the 212/646/917 overlay complex, March 20, 2015, documenting the 1984, 1992, 1999, and planned 332 relief history. https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId=%7BB1FEBC0A-BDC0-434D-A395-52AF63889A04%7D; https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId=%7BD448059A-3EE5-4121-AB8D-89FE236CDBD2%7D

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BODY

Appendix: Transmission

(Non-Analytical Layer)

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This work was developed with AI-assisted analysis tools. All arguments, structures, and final judgments are the author's.

Hey Josiane,

Sum Bunny Loves You!!!